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10/662,703	09/15/2003	Zhidan Cheng	200-10900 (PB030016AF)	1029

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EXAMINER

WILSON, ROBERT W

ART UNIT	PAPER NUMBER
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2619

MAIL DATE	DELIVERY MODE
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11/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

8

Office Action Summary	Application No. 10/662,703	Applicant(s) CHENG ET AL.	
	Examiner Robert W. Wilson	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2007.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-24 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/15/03</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 13-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Referring to claim 13, the specification on pgs 6 line 16 to 29 teaches that the network card simply compares the received message to the IP address and associated network card in order to determine which xDSL line card and ports in which to forward the message. Where in the specification is it taught "receiving a message addressed to one of a plurality of customer devices, the plurality of customer devices to be connected to a plurality of modems, the plurality of modems to be connected to a plurality of first line cards that receive the message, the message having the message having an IP address and subnet mask, the plurality of customer devices having a plurality of IP addresses; identifying a complete IP address from the IP address and the subnet mask of the message; and determining if the complete IP address is identical to an IP address of the plurality of customer devices"?

Referring to claim 16, where is it taught in the specification that the "each first line card of the first line card maintains a table that includes each port of the first line card and an associated IP address of a customer device for each port of each first line card that has an associated IP address"?

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Referring to claim 13 & 16, the examiner asserts that the specification lacks antecedent basis for these claims. How can one assess the metes and bounds of this claim limitation?

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1- 7 & 17-22 & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Admitted Prior Art in view of Bhatia (U.S. Patent No.: 6,829,239)

Referring to claim 1, Admitted Prior Art teaches: a device (100 per Fig 1) comprising: a bus (110 per Fig 1); a plurality of first line cards (116 per Fig 1) connected to the bus (110 per Fig 1) each first line card having a plurality of local ports (96 local ports per Pg 1 line 10 to Pg 2 line 11) the plurality of local ports being associated with a plurality of customer devices that have a plurality of IP addresses (inherent customer devices with inherent IP address is connected via 118 per Fig 1) and a second line card (112 per Fig 1) connected to the bus (110 per Fig 1) having a network port that is connectable to a network segment (112 per Fig 1 has an inherent network port which is connected to 114 per Fig 1 or network segment) the network port having an IP address and a subnet mask (The network port has an IP address and an inherent subnet mask per Pg 1 line 10 to Pg 2 line 11)

The admitted Prior Art does not expressly call for: the network port identifying a range of IP address from the IP address of the network port, the range of IP address including all of the plurality of IP address of the plurality of customer devices

Bhatia teaches: the network port identifying a range of IP address from the IP address of the network port, the range of IP address including all of the plurality of IP address of the plurality of customer devices (The LAN modem maintains the list of IP addresses associated with the workstations or customer devices and upon receipt of a packet from the network side can determine which workstation or customer device should receive the packet per col. 4 line 46 to col. 6 line 17)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network port identifying a range of IP address from the IP address of the network port, the

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range of IP address including all of the plurality of IP address of the plurality of customer devices of Bhatia to the network port of the Admitted Prior Art in order for the network port to forward traffic from the network to the customer devices by improving the performance.

In addition Admitted Prior Art teaches:

Regarding claim 2, wherein the plurality of local ports are only connectable to the plurality of modems (Local ports are on xDSL modem cards and therefore only connectable to the modems per Pg 1 line 10 to Pg 2 line 11)

Referring to claim 3, the Admitted Prior Art and Bhatia teach: the device of claim 2 and the Admitted Prior Art teaches: wherein the second line card (112 per Fig 1) receives a message from the network segment (112 per Fig 1 receives inherent message via 114 per Fig 1 (network segment) and a first line card (112 per Fig 1)

The Admitted Prior Art does not expressly call for: forwarding message with IP addresses that match the IP address of the plurality of customer device

Bhatia teaches: forwarding message with IP addresses that match the IP address of the plurality of customer device (LAN modem forwards the message per col. 4 line 46 to col. 6 line 17)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the forwarding message with IP address that match the IP address of the customer device of Bhatia to the first line card and second line card of the Admitted Prior Art in order for the customer devices to receive the packets.

Referring to claim 4, the Admitted Prior Art and Bhatia teach: the device of claim 3 and the Admitted Prior Art teaches: a first line card (116 per Fig 1) and a second line card (112 per Fig 1)

In Addition the Admitted Prior Art teaches:

Regarding claim 5, wherein the a first local port of the first line card is associated with a first customer device that has a first IP address (116 per Fig 1 (first line card) has a first local port which has an inherent IP address associated with an inherent customer device per Pg 1 line 10 to Pg 2 line 11)

Regarding claim 6, wherein when a first local port of a first line card is associated with a first customer device that has a first IP address the first line card receives message form the first customer device and forward the message to the second line card via the bus (116 per Fig 1 (first line card) has a first local port which inherently forwards message from the inherent customer device to 112 per Fig 1 & per Pg 1 line 10 to Pg 2 line 11).

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Regarding claim 7, wherein the first line card include xDSL line cards (Fig 1 and per Pg 1 line 10 to Pg 2 line 11)

Referring to claim 17, Admitted Prior Art teaches: a device (100 per Fig 1) comprising:

a plurality of first line cards (116 per Fig 1) each first line card having a plurality of local ports (116 per Fig 1 has a plurality of local ports, the plurality of local ports to be associated with a plurality of customer devices that have a plurality of IP addresses (Each local port is associated with an inherent customer device which has an inherent IP address)

a second line card (112 per Fig 1) is connected to the plurality of first line cards (116 per Fig 1), the second line card (112 per Fig 1) having a network port to be connected to a network segment (112 per Fig 1 has inherent port connected to 114 per Fig 1 or network segment) the network port having an IP address and a subnet mask (The network port has an IP address and an inherent subnet mask per Pg 1 line 10 to Pg 2 line 11)

The admitted Prior Art does not expressly call for: the network port identifying a range of IP address from the IP address of the network port, the range of IP address including all of the plurality of IP address of the plurality of customer devices

Bhatia teaches: the network port identifying a range of IP address from the IP address of the network port, the range of IP address including all of the plurality of IP address of the plurality of customer devices (The LAN modem maintains the list of IP addresses associated with the workstations or customer devices and upon receipt of a packet from the network side can determine which workstation or customer device should receive the packet per col. 4 line 46 to col. 6 line 17)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the network port identifying a range of IP address from the IP address of the network port, the range of IP address including all of the plurality of IP address of the plurality of customer devices of Bhatia to the network port of the Admitted Prior Art in order for the network port to forward traffic from the network to the customer devices by improving the performance.

In addition Admitted Prior Art teaches:

Regarding claim 18, wherein the plurality of local ports are only connectable to the plurality of modems (Local ports are on xDSL modem cards and therefore only connectable to the modems per Pg 1 line 10 to Pg 2 line 11)

Referring to claim 19, the combination of Admitted Prior Art and Bhatia teach: the device of claim 17 and Admitted Prior Art teaches: wherein the second line card (112 per Fig 1) forward a first message (inherent first message) to the first line card (116 per Fig 1) including a first IP address (the inherent IP address of the customer device)

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Admitted Prior Art does not expressly call for: forwarding the message when the address falls within the range of IP addresses

Bhatia teaches: forwarding the message when the address falls within the range of IP addresses (message forwarded per col. 4 line 46 to col. 6 line 17)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the forwarding the message when the address falls within the range of IP addresses of Bhatia to the system of the combination of Admitted Prior Art and Bhatia in order for the message to be sent to the local network.

Referring to claim 20, the combination of Admitted Prior Art and Bhatia teach: the device of claim 17 and Admitted Prior Art teaches: wherein the second line card (112 per Fig 1) forward a second message (inherent second message) to the first line card (116 per Fig 1) including a second IP address (the inherent IP address of the customer device)

Admitted Prior Art does not expressly call for: forwarding the message when the address falls within the range of IP addresses

Bhatia teaches: forwarding the message when the address falls within the range of IP addresses (message forwarded per col. 4 line 46 to col. 6 line 17)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the forwarding the message when the address falls within the range of IP addresses of Bhatia to the system of the combination of Admitted Prior Art and Bhatia in order for the message to be sent to the local network.

In addition Admitted Prior Art teaches:

Regarding claim 21, wherein when a first local port of the first line card is associated with a first customer device that has a the first IP address (The local ports on the 116 per Fig 1 forward the message to the inherent customer device based upon inherent first IP address) the first line card identifies (116 per Fig 1) the message from the second line card (identifies inherent message form 112 per Fig 1) that a are address to the first IP address and forward the message to the first local port (message is forwarded to local port on 116 per Fig 1)

Regarding claim 22, wherein when a second local port of the first line card is associated with a second customer device that has a second IP address (The local ports on the 116 per Fig 1 forward the message to the inherent customer device based upon inherent second IP address) the first line card identifies (116 per Fig 1) the message from the second line card (identifies inherent message form 112 per Fig 1) that a are address to the second IP address and forward the message to the second local port (message is forwarded to local port on 116 per Fig 1)

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Regarding claim 24, wherein the first line card include xDSL line cards (Fig 1 and per Pg 1 line 10 to Pg 2 line 11)

7. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Bhatia (U.S. Patent No.: 6,829,239) further in view of Aiken (U.S. Patent No.: 6,430,622)

Referring to claim 23, the combination of the Admitted Prior Art and Bhatia teach: the device of claim 21 and the Admitted Prior Art teaches a Second line card that outputs information to the network segment via network port per Fig 1.

The combination of the Admitted Prior Art and Bhatia do not expressly call for: advertising the IP address and subnet mask

Aiken teaches: advertising the IP address and subnet mask col. 10 lines 12 to 20)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the advertising the IP address and subnet mask of Aiken to the system of the combination of the Admitted Prior Art and Bhatia in order to build a system which can interoperate with RIP or OSPF routing protocols

8. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Ma (U.S. Patent No.: 6,798,743) further in view of Engwer (U.S. Patent No.: 7,082,114)

General Comment: Because the examiner cannot determine from the specification the meaning of these claims (Refer to 112 1st and 112 2nd rejection above) the rejection that follows was created based upon the examiner's best understanding of the claimed invention.

Referring to claim 13, Admitted Prior Art teaches: method (100 per Fig 1 performs the method) comprising: receiving a message address to one of a plurality of customer devices (100 receives an inherent message addressed to one of the inherent customer devices per Fig 1) the plurality of the customer devices to be connected to a plurality of modems (The inherent plurality of customer devices are connected via 118 to xDSL line cards or modems) the plurality of modems to be connected to a plurality of first line cards (The plurality of xDSL (modems) are connected to a line card which is capable of receiving a message per Fig 1) and the plurality customer devices have an inherent IP address per Fig 1)

Admitted Prior Art does not expressly call for: second line card which receives the message is connected to the first line card and message having an IP address and a subnet mask, identifying

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a complete IP address from the IP address and the subnet mask of the message and determined if the complete IP address is identical to an IP address of the plurality of the IP address of the plurality of customer device

Ma teaches: a plurality of line cards (68 per Fig 4 or plurality of line cards per col. 8 line 6 to 48)

It would have been obvious to add the a plurality of line cards of Ma in place of the line card of Admitted Prior Art in order to build a system which will support more inputs ports thus realizing a second line card which receives the message

The combination of Admitted Prior Art and Ma do not expressly call for: receiving the message having an IP address and a subnet mask, identifying a complete IP address from the IP address and the subnet mask of the message and determined if the complete IP address is identical to an IP address of the plurality of the IP address of the plurality of customer device

Engwer teaches: receiving the message having an IP address and a subnet mask, identifying a complete IP address from the IP address and the subnet mask of the message and determined if the complete IP address is identical to an IP address of the plurality of the IP address of the plurality of customer device (col. 10 lines 18 to 39)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add receiving the message having an IP address and a subnet mask, identifying a complete IP address from the IP address and the subnet mask of the message and determined if the complete IP address is identical to an IP address of the plurality of the IP address of the plurality of customer device of Engwer to the system of the combination of Admitted Prior Art and Ma in order to build a system which can change from one subnet to another subnet.

In addition Admitted Prior Art teaches:

Regarding claim 14, wherein the plurality of customer devices includes a first customer device having a first IP address and a second customer device having a second IP address (Each inherent customer device has its own IP address per Fig 10)

Regarding claim 15, and further comprising forwarding the message to a first line card of the plurality of first line card when the complete address exactly matches the first IP address of the first customer device and forwarding the message to the first line card of the plurality of first line card when the complete IP address exactly matches the second IP address of the second customer device (message is inherently forwarded through the architecture per Pg 1 line 17 to Pg 2 line 11)

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Ma (U.S. Patent No.: 6,798,743) in view of Engwer (U.S. Patent No.: 7,082,114) further in view of Bhatia (U.S. Patent No.: 6,829,239)

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General Comment: Because the examiner cannot determine from the specification the meaning of these claims (Refer to 112 1st and 112 2nd rejection above) the rejection that follows was created based upon the examiner's best understanding of the claimed invention.

The combination of Admitted Prior Art, Ma, and Egwer teach: the method of claim 15 and Admitted Prior Art teaches: each first line card of the plurality of first line cards includes a plurality of local ports that are associated with a number of IP address of a number of customer devices (Pg 1 line 17 to Pg 2 line 11)

The combination of Admitted Prior Art, Ma, and Egwer does not expressly call for: table

Bhatia teaches: table (The LAN modem maintains the list of IP addresses associated with the workstations or customer devices and upon receipt of a packet from the network side can determine which workstation or customer device should receive the packet per col. 4 line 46 to col. 6 line 17)

It would have been obvious to add the table of Bhatia to the line cards of Admitted Prior Art, Ma, and Egwer in order to route packets from the network side to the customer devices.

Response to Amendment

10. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

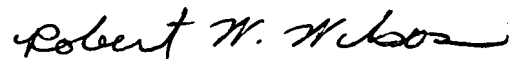
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075.

The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571/272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Robert W Wilson
Examiner
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